Township of North Brunswick Water Utility

Consumer Confidence Report for Water Delivered in 2014

Prepared by: American Water Contract Services Group

North Brunswick
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AMERICAN WATER MESSAGE:

The Township of North Brunswick and American Water are pleased to present you with our annual Water Quality Report for the year 2014. Over ninety different parameters are monitored with frequencies specified by the New Jersey Department of Environmental Protection and U.S. Environmental Protection Agency. Some parameters like turbidity and residual chlorine are monitored continuously. As you read through this Water Quality Report, you will see that your water met or surpassed all state and federal water quality standards.

Since 2002, North Brunswick's water utility has been managed and operated by American Water Contract Services Group under a twenty-year contract with the Township, which owns the water system. American Water brings considerable experience as well as technical and human resources to this project. The combined resources of North Brunswick and American Water have enabled a number of improvements and evaluations to be made to the water system.

In 2012, the water treatment plant became a member of The Partnership for Safe Water. Our involvement has made us eligible for the prestigious "Director's Award." This award honors water utilities for achieving operational excellence, by voluntarily optimizing their treatment facility operations and adopting more stringent goals than those required by federal and state drinking water standards. American Water completed a rigorous self-assessment of water quality results and operations. The report was submitted to the Partnership for consideration.

In 2015, the following improvements and evaluations are planned to be started or implemented: new billing software system, leak detection, improved meter installation procedure, distribution system improvements, pH control to reduce corrosion, water tank inspections and a comprehensive investigation of the transmission line from the water treatment plant to the Township.

American Water has submitted a treatment project to optimize organic removal, evaluate raw water quality and treatment for algae control and reduction of disinfectant by-products. If approved, the project will be a collaborated research and funding effort between American Water and CDM Smith, Inc. a consulting, engineering and operations firm that provides lasting and integrated solutions in water.

Please review this Consumer Confidence Report (CCR) which outlines information applicable to your local water system for testing completed through December 2014.

Our customers are our top priority, and we are committed to providing them with the highest quality drinking water and service possible, now and for years to come. In addition to this report, you can view information about your water system at: http://www.northbrunswicknj.gov/.

Drinking Water Sources and Treatment

The source of the water supply that is treated by North Brunswick Township is the Delaware and Raritan Canal located in Franklin Township, New Jersey. The water in this canal comes primarily from the Delaware River. The North Brunswick Township Treatment Plant is a 10 MGD treatment facility originally built in 1963. New filters, control system and solids handling improvements were completed in late 2009. The water plant provides water to more than 11,000 customers -- approximately 40,000 persons.

How to Contact Us

For more information about the contents of this report, contact American Water Contract Services Group at (732)297-7332, or North Brunswick Township at (732)247-0922.

TOWNSHIP OF NORTH BRUNSWICK
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Water Quality: Contaminants and Regulations

The sources of drinking water (both tap water and bottled water) include rivers, lakes, streams, ponds, reservoirs, springs and wells. As water travels over the surface of the land or through the ground, it dissolves naturally occurring minerals and, in some cases, radioactive material, and can pick up substances resulting from the presence of animals or human activity. Drinking water, including bottled water, may reasonably be expected to contain at least small amounts of some contaminants.

In order to ensure that tap water is safe to drink, EPA prescribes regulations that limit the amount of certain contaminants in water provided by public water systems. Food and Drug Administration regulations establish limits of contaminants in bottle water that must provide the same protection for public health.

The EPA and the Center for Disease Control guidelines on appropriate means to lessen the risk of infection by *Cryptosporidium,* Giardia and other microbial pathogens are available from the Safe Drinking Water Hotline (1-800-426-4791).

Contaminants that may be present in some source water include:

Microbial contaminants, such as viruses and bacteria, which may come from sewage treatment plants, septic systems, agricultural livestock operations and wildlife.

Inorganic contaminants, such as salts and metals, which can be naturally occurring or result from urban storm water runoff, industrial or domestic wastewater discharges, oil and gas production, mining or farming.

Pesticides and herbicides, which may come from a variety of sources such as agriculture, urban storm water runoff and residential uses.

Organic chemical contaminants, including synthetic and volatile organic chemicals, which are by-products of industrial processes and petroleum production, and can also come from gas stations, urban storm water runoff, agricultural application and septic systems.

Radioactive contaminants, which can be naturally occurring or be the result of oil and gas production and mining activities.

The presence of contaminants does not necessarily indicate that water poses a health risk. More information about contaminants and potential health effects can be obtained by calling the U.S. EPA's Safe Drinking Water Hotline (800)426-4791.

Vulnerable Populations Statement

Some people may be more vulnerable to contaminants in drinking water than the general population. Immuno-compromised persons such as persons with cancer undergoing chemotherapy, persons who have undergone organ transplants, people with HIV/AIDS or other immune system disorders, some elderly, and infants can be particularly at risk from infections. These people should seek advice about drinking water from their health care providers. EPA/CDC guidelines on appropriate means to lessen the risk of infection by Cryptosporidium and other microbial contaminates are available from the Safe Drinking Water Hotline at (800) 426-4791.

How Do I Read The Table Of Detected Contaminants?

Starting with the contaminant, read across from left to right. A "Yes" under Compliance Achieved means the amount of substance met government requirements. The column marked MCLG, Maximum Contaminant Level Goal, is the level of contaminant in drinking water below which there is no known or expected risk to health. MCLGs allow for a margin of safety. The shaded column marked MCL, Maximum Contaminant Level, is the highest level of a contaminant allowed in drinking water. MCLs are set as close to the MCLGs as feasible using the best available treatment technology. The column marked Range shows the highest and lowest test results for the year. The shaded column marked Highest Level Detected shows the highest test results during the year. Major Sources in Drinking Water shows where this substance usually originates. To be in compliance, the Maximum Detected Level must be lower than the MCL standard.

Key Water Quality Terms

Following are definitions of key terms referring to standards and goals of water quality noted on the following data tables.

Maximum Contaminant Level Goal (MCLG): The level of a contaminant in drinking water below which there is no known or expected risk to health. MCLGs are set by the EPA.
Maximum Contaminant Level (MCL): The highest level of a contaminant that is allowed in drinking water. Primary MCLs are set as close to the MCLGs as is economically and technologically feasible. Secondary MCLs are called Recommended Upper Limits and are set to protect the odor, taste, and appearance of drinking water.
LRAA (Locational Running Annual Average): The average is calculated for each monitoring location.
None Detected (ND): Laboratory analysis indicates that the constituent is not present.
Nephelomatric Turbidity Units (NTU): The measurement of light refracted in a water sample.
Primary Drinking Water Standard (PDWS): MCLs and MRDLs for contaminants that affect health along with their monitoring and reporting requirements, and water treatment requirements.
Action Level: The concentration of a contaminant which, if exceeded, triggers treatment or other requirements that a water system must follow.
Treatment Technique (TT): A required process intended to reduce the level of a contaminant in drinking water.
Parts per million (ppm) or milligrams per liter (mg/L): One part per million equals about: one minute in two years, or one inch in 16 miles.
Parts per billion (ppb) or micrograms per liter (µg/L): One part per billion equals about: one second in 32 years, or one inch in 16,000 miles.
<(Less Than): The actual sample result is less than the number shown.

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North Brunswick Township - Water Quality Data for Year 2014

The table below lists all 2014 detected drinking water contaminants and the information about their typical sources. Contaminants below detection limits are not shown, in accordance with NJDEP regulatory guidance. To assure high quality water, individual water samples are taken each year for chemical, physical and microbiological tests. Tests are completed on water taken at the source, from the distribution system after treatment and, for lead and copper monitoring from the customer's tap. Testing can pinpoint a potential problem so that preventive action may be taken.

The Safe Drinking Water Act regulations allow monitoring waivers to reduce or eliminate the monitoring requirements for asbestos, volatile organic chemicals, and synthetic organic chemicals. Our system has received a monitoring waiver for synthetic organic chemicals for the monitoring period of 1/1/2011 – 12/31/2013.

Contaminant	Unit	MCL	MCLG	Compliance Achieved	Highest Level Detected	Range Detected	Major Sources in Drinking Water
TURBIDITY							
Turbidity[1]	NTU	TT= 1 NTU	N/A	Yes	0.17	0.02 – 0.17	Soil runoff
	NTU	TT= 95 percent of samples <0.3 NTU	N/A	Yes	100%	N/A	
DISINFECTION BY-PRODUCTS AND PRECURSOR							
Total Trihalomethanes	ppb	80	N/A	Yes	60.2[2]	9 - 98	By-product of drinking water disinfection
Haloacetic Acids	ppb	60	N/A	Yes	44[3]	21 - 54	By-product of drinking water disinfection
Total Organic Carbon [4]	ppm	TT	N/A	Yes	2.3	1.4 – 2.3	Various natural and man-made sources
DISINFECTANTS							
Chlorine	ppm	4	4	Yes	1.5	0.7 – 1.5	Water additive used to control microbes
MICROBIOLOGICAL							
Total Coliform[5]	-	≤ 5.0% of monthly samples	0	Yes	0	N/A	Naturally present in the environment
Fecal Coliform/E. coli	-	0	0	Yes	0	N/A	Naturally present in the environment
INORGANICS							
Barium	ppm	2.0	2.0	Yes	0.03	0.03	Erosion of natural deposits; Discharge of drilling wastes
Nickel	ppb	N/A	N/A	Yes	0.7	0.7	Erosion of natural Deposits

LEAD and COPPER 2013 Data

Lead & Copper	Unit	AL	MCLG	Compliance Achieved	90th Percentile 30 samples	Number of Samples above AL	Typical Sources in Drinking Water
Copper	ppm	1.3	1.3	Yes	0.13	0 out of 30	Internal corrosion of household water plumbing systems
Lead	ppb	15	0	Yes	1.3	1 out of 30	Internal corrosion of household water plumbing systems

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SECONDARY STANDARDS					
Contaminant	**Units**	Recommended Upper Limits	**Level Detected**	**Compliance Achieved**	**Likely Source**
Sodium	ppm	50	17	Yes	Naturally occurring, road salt
Iron	ppm	0.3	<0.05	Yes	Naturally occurring
Manganese	ppm	0.05	0.005	Yes	Naturally occurring
Hardness	ppm	250	64	Yes	Natural minerals

[1] Turbidity is a measure of the cloudiness of the water. Turbidity has no health effects; however, Turbidity can interfere with disinfection and provide a medium for microbial growth. 100% of the turbidity readings were below the treatment technique requirement of 0.3 NTU.
[2] This level represents the highest Locational Running Annual Average (LRAA)
[3] This level represents the highest Locational Running Annual Average (LRAA)
[4] Total Organic Carbon (TOC) is the precursor for disinfection by-product formation. TOC has no health effects; however TOC provides a medium for the formation of disinfectant by-products. Drinking water containing these by-products in excess of the MLC may lead to adverse health effects, liver or kidney problems, or nervous system effects, and may also lead to an increased risk of getting cancer.
[5] We are required to collect a minimum of 40 routine samples from the distribution system every month, of which you cannot exceed 5% of the samples collected being positive for Total Coliforms. Coliforms are not a health threat in itself; it is used to indicate whether other potentially harmful bacteria may be present.

Unregulated Contaminant Monitoring Rule 3 (UCMR3)

During 2013 and the first quarter of 2014, our Company participated in the Unregulated Contaminant Monitoring Rule. Unregulated contaminants are those for which the EPA has not established drinking water standards. The purpose of unregulated contaminant monitoring is to assist the EPA in determining the occurrence of unregulated contaminants in drinking water and whether regulation is warranted.

Contaminant	**Unit**	**Highest Level Detected**	**Range Detected**	**Typical Sources in Drinking Water**
Strontium	ppb	88	45.8 – 88	Naturally occurring element; historically commercial use of strontium has been in the faceplate glass of cathode-ray tube televisions to block x-ray emissions
Vanadium	ppb	0.6	ND – 0.6	Naturally-occurring elemental metal; used as vanadium pentoxide which is a chemical intermediate and a catalyst
Chlorate	ppb	470	93 - 470	Agricultural defoliant or desiccant; disinfection byproduct; and used in production of chlorine dioxide
Chromium	ppb	0.2	ND – 0.2	See chromium-6 for use or source information; though the amount measured when analyzing for "total chromium" is the sum of chromium in all of its valence states, the MCL for EPA's current total chromium regulation was determined based upon the health effects of chromium-6
Chromium VI	ppb	0.6	ND – 0.6	Naturally-occurring element; used in making steel and other alloys; chromium-3 or -6 forms are used for chrome plating, dyes and pigments, leather tanning, and wood preservation
Chlorodiflouromethane	ppb	0.1	ND – 0.1	Chlorofluorocarbon; occurs as a gas, and used as a refrigerant, as a low-temperature solvent, and in fluorocarbon resins, especially tetrafluoroethylene polymers

Protecting Your Water Source

What is S.W.A.P.?

SWAP (Source Water Assessment Program) is a program of the New Jersey Department of Environmental Protection (NJDEP) to study existing and potential threats to the quality of public drinking water sources throughout the state.

The NJDEP has completed and issued the Source Water Assessment Report and Summary for this public water system which is available at http://www.nj.gov/dep/watersupply/swap/index.html or by contacting the NJDEP, Bureau of Safe Drinking Water at (609)292 5550. The source water assessment performed on our source (the Delaware & Raritan Canal) determined the following:

Table B: Summary of Susceptibility Ratings for Drinking Water Source(s)

	Pathogens			Nutrients			Pesticides			VOCs			Inorganics			Radionuclides			Radon			DBPs		
Source	H	M	L	H	M	L	H	M	L	H	M	L	H	M	L	H	M	L	H	M	L	H	M	L
Wells - 0																								
GUDI - 0																								
Surface Water intakes - 1	1			1			1				1		1					1			1	1		

If a system is rated highly susceptible for a contamination category, it does not mean a customer is or will be consuming contaminated water. The rating reflects the potential for contamination of source water, not the existence of contamination. Public water systems are required to monitor for regulated contaminants and to install treatment if any contaminants are detected at frequencies and concentrations above allowable levels.

North Brunswick Township is committed to providing its customers with safe drinking water. The Township continuously monitors the turbidity (particulates) and chlorine level of the finished water leaving the plant and periodically analyzes it for more than 90 different contaminants. Water samples from several locations in the distribution system are regularly monitored for the presence of certain bacteria and for the residual chlorine level. The water leaving the treatment plant's individual processes are monitored continuously or tested every two hours. All required results are reported to the Bureau of Safe Drinking Water of the New Jersey Department of Environmental Protection. The table on page 4 provides you with the testing results for contaminants that were detected in the drinking water, all of which were present at levels well below their respective MCL (maximum contaminant level). Contaminants that were not detected are not included in the table.

springs and wells. As water travels over the surface of the land or through the ground, it dissolves naturally occurring minerals and, in some cases, radioactive material, and can

Special Information Statement for Lead:

If present, elevated levels of lead can cause serious health problems, especially for pregnant women and young children. Lead in drinking water is primarily from materials and components associated with service lines and home plumbing. American Water Contract Services Group/North Brunswick is responsible for providing high quality drinking water, but cannot control the variety of materials used in plumbing components. When your water has been sitting for several hours, you can minimize the potential for lead exposure by flushing your tap for 30 seconds to 2 minutes before using water for drinking or cooking. If you are concerned about lead in your water, you may wish to have your water tested. Information on lead in drinking water, testing methods, and steps you can take to minimize exposure is available from the Safe Drinking Water Hotline at (800)426-4791, or at http://water.epa.gov/drink/info/lead/index.cfm

Water Information Sources

• New Jersey Department of Environmental Protection, Bureau of Safe Drinking Water:
(609) 292-5550
http://www.state.nj.us/

• US Environmental Protection Agency:
www.epa.gov/safewater

• Safe Drinking Water Hotline: 1-800-426-4791

• American Water Works Association:
www.awwa.org

• Centers for Disease Control and Prevention:
www.cdc.gov

Share This Report:

Landlords, businesses, schools, hospitals and other groups are encouraged to share this important water quality information with water users at their location who are not customers. Additional copies of this report are available by contacting American Water at 732-297-7332.

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Public Participation

How You Can Get Involved

Customers can participate in decisions that may affect the quality of water by:

• Reading the information provided in bill inserts and special mailings

• Contacting the company directly with questions or to discuss issues

• Attending open houses conducted by the company

• Responding to survey requests

Contaminants tested for but not detected

To view all the contaminants that were tested but not detected:

NJDEP-Drinking WaterWatch

Aerial View of Township of North Brunswick Water Treatment Plant

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